Award Number: W81XWH-08-2-0138

TITLE: Mission Connect Mild TBI Translational Research Consortium

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REPORT DATE: August 2011

TYPE OF REPORT: Annual

PREPARED FOR: U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

DISTRIBUTION STATEMENT: Approved for Public Release;
Distribution Unlimited

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
August 2011	Annual	1 August 2010 – 31 July 2011

4. TITLE AND SUBTITLE

Mission Connect Mild TBI Translational Research Consortium

5a. CONTRACT NUMBER

5b. GRANT NUMBER
W81XWH-08-2-0138

5c. PROGRAM ELEMENT NUMBER

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5d. PROJECT NUMBER

5e. TASK NUMBER

5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

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8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)
U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

10. SPONSOR/MONITOR'S ACRONYM(S)

11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION / AVAILABILITY STATEMENT
Approved for Public Release; Distribution Unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

The purpose of this project is to identify the incidence of post traumatic hypopituitarism (PTH) in mild TBI and develop criteria for assessing which patients with a mild TBI are at risk for developing PTH. This study will also correlate the characteristics of the individuals with PTH by neuropsychological, neurophysiological and imaging testing as they relate to functional outcome. At 6 months post injury, patients will be screened for anterior pituitary function. 67 subjects have been recruited as of July 31, 2011; 26 have reached the 6 month point, where data collection (i.e. blood samples) for this project occurs. Data analysis of the results from blood samples drawn at that point has not yet begun.

15. SUBJECT TERMS
post traumatic hypopituitarism

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			USAMRMC
U	U	U	UU	5	19b. TELEPHONE NUMBER *(include area code)*

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Introduction: The purpose of this project will be to study the diagnosis of post traumatic hypopituitarism after MTBI. We will determine the incidence of hypopituitarism following MTBI and develop criteria for assessing which MTBI patients are at high risk for developing posttraumatic hypopituitarism and should have routine post-injury screening. We will also determine the relationship between post-traumatic hypopituitarism and functional outcome, cognitive recovery, and resolution of PCS at six months after MTBI. At 6 months post-injury, patients will be screened for anterior pituitary function by measuring IGF1, total testosterone in males, 17 beta estradiols in females, prolactin, TSH, and morning cortisols. The incidence of single and multiple pituitary hormone deficiencies will be determined. The clinical characteristics, MRI imaging results, EEG and MEG results of the patients who have pituitary deficiency will be compared to those of patients with normal pituitary function. The relationship between pituitary dysfunction and functional outcome, cognitive recovery, and resolution of PCS will be examined.

Body of report

SA #2.3: **To study diagnosis of post-traumatic hypopituitarism after MTBI**
SA #2.3.1: To determine the incidence of hypopituitarism following MTBI.
SA #2.3.2: To develop criteria for assessing which MTBI patients are at high risk for developing posttraumatic hypopituitarism and should have routine post-injury screening.

Relative to SA #2.3.1 and 2.3.2:
67 subjects have been recruited as of July 31, 2011; 26 have reached the 6 month point, where data collection (i.e. blood samples) for this project occurs. Data analysis of the results from blood samples drawn at that point has not yet begun. I have been an active participant in the Clinical Working Group as well as at the Partnering PI Quarterly meetings, and was invited to attend the 27th Army Science Conference in Orlando, November, 2010.

Key research accomplishments:

67 subjects have been recruited as of July 31, 2011; 26 have reached the 6 month point, where data collection (i.e. blood samples) for this project occurs. Data analysis of the results from blood samples drawn at that point has not yet begun.

I have been an active participant in the Clinical Working Group as well as at the Partnering PI Quarterly meetings, and was invited to attend the 27th Army Science Conference in Orlando, November, 2010.

Dr. Masel and Dr. Urban have published two papers on the topic of post traumatic hypopituitarism in the past year:
Effect of Growth Hormone Replacement Therapy on Cognition after Traumatic Brain Injury, Journal of Neurotrauma 27:1565-1585 (September 2010)

Serum IGF-1 concentrations in a sample of patients with traumatic brain injury as a diagnostic marker of growth hormone secretory response to glucagon stimulation testing, Clinical Endocrinology (2011) 74, 365–369
The former was accepted as a poster presentation at the 27th Army Science Conference.

Reportable outcomes:

67 subjects have been recruited as of July 31, 2011; 26 have reached the 6 month point, where data collection (i.e. blood samples) for this project occurs. Data analysis of the results from blood samples drawn at that point has not yet begun

Conclusion:
As of July 31, 2011, 67 subjects have been recruited as of July 31, 2011, and 26 have reached the 6 month point, where data collection (i.e. blood samples) for this project occurs. Data analysis of the results from blood samples drawn at that point has not yet begun.

References:
None

Appendices:
None

Supporting Data:
None